

SOME LAUXANIIDÆ (DIPTERA) IN QUEENSLAND COLLECTIONS.

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Through the courtesy of Mr. George Mack, Director of the Queensland Museum, and Dr. W. A. McDougall, Senior Entomologist, Department of Agriculture and Stock, I have had the opportunity of examining the lauxaniid material in the collections of the Museum and the Department. As a result, some species are recorded for the first time from Queensland, and one is represented by the only specimen known in Australia. Three new species are described, and one known species is redescribed.

It is doubtful if even one-tenth of the lauxaniid fauna of Queensland is known, a fact probably due to the smallness of the insects and to their having little or no direct economic importance. As both morphologically and biologically this family is of considerable interest, it is to be hoped that this position will soon be rectified, at least in part, since collecting merely involves the sweeping of grasses and low-growing herbaceous vegetation, especially near water.

The following genera are represented in the collections.

Genus **STEGANOPSIS** de Meijere.

Steganopsis melanogaster Thomson was described from New South Wales. This is the first record from Queensland where apparently it is common as indicated by the large number of specimens from wide-spread localities.

Genus **POECILOHETAERUS** Hendel.

Poecilohetaerus schineri Hendel appears to be an ubiquitous lauxaniid. It was described from New South Wales, but it is common in Queensland. Professor O. W. Tiegs informs me that it is a common insect in Victoria, while in South Australia it is present wherever grass grows.

Genus **MELANINA** Malloch.

A single specimen of *M. aenescens* Malloch is in the collection of the Department of Agriculture and Stock, Brisbane. The type is not in Australia, although it and six paratypes were collected by H. Petersen at Cronulla, New South Wales, in December, 1925. The present specimen therefore, which was taken at Harlin, Queensland, would appear to be unique in Australia until more material is obtained.

Genus **SAPROMYZA** Fallen.

This genus is represented in the material by nine species. *S. brevicornis* Malloch, *S. maculithorax* Malloch, *S. nigricornis* Macquart, *S. sciomyzina* Schiner, and *S. tenuicornis* Malloch, are recorded from Queensland for the first time. Several

specimens of *S. pictigera* Malloch (Figure 1) which was originally described from Queensland, are present. This is a striking species, the unusual colouration of the wing is unlike that of any other known *Sapromyza*. The species would appear to be restricted to Queensland.

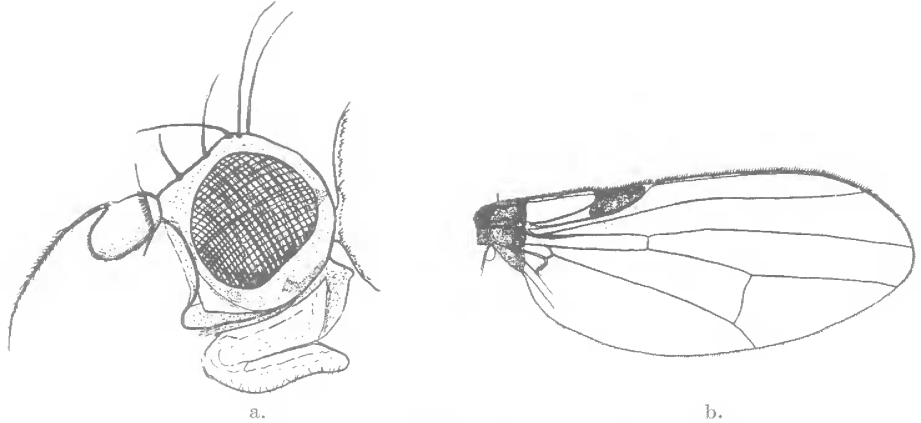


Figure 1.—*Sapromyza pictigera* Malloch. a. Head. b. Wing.

S. tenuicornis (Figure 2) is an aberrant member of the genus, and its exact status remains to be determined. It differs from other species of the genus in the shape of the head and the very long antennae (Figure 3). Mr. D. J. Lee kindly checked the type in the collection of the School of Public Health and Tropical Medicine, Sydney, and he has informed me that the "abdomen of the type is orange-brown, with the apices of the tergites infuscated." This exactly agrees with the seven specimens in the Queensland Museum collection, and differs markedly from the description by Malloch (1927):—"Abdomen glossy black, yellowish on disc basally, where it is slightly grey-dusted".

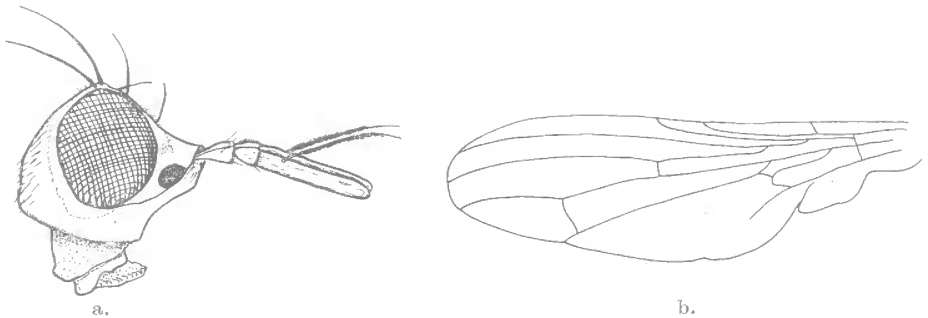


Figure 2.—*Sapromyza tenuicornis* Malloch. a. Head. b. Wing.

Following are descriptions of two new species of *Sapromyza* from the collections of the Queensland Museum.

The venational notation used was described by me in a recent paper (Lower, 1951).

SAPROMYZA HARDII sp. nov.

Figure 3.

LENGTH. 6 mm. COLOUR. Brownish, translucent, and polished.

HEAD. Rounded, brownish in colour. (Figure 3a).

FRONS. Sub-quadrate, slightly wider than long, brown, semi-polished; ocellar triangle fuscous, ocellar bristles short. Two pairs of fronto-orbital bristles, both long, strong, and reclinate. Posterior pair one-third of the distance between the anterior ocellus and the anterior margin of the frons. Anterior pair midway between posterior pair and anterior margin of frons.

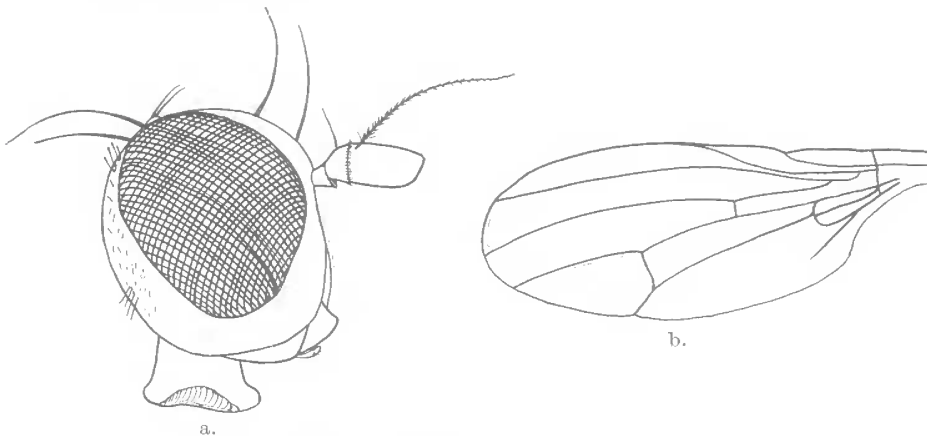


Figure 3.—*Sapromyza hardii* sp. nov. a. head. b. Wing.

FACE. Slightly convex, almost flat, brownish-yellow. Mouth normal, palpi yellowish.

EYE. Higher than long, posterior margin straight.

ANTENNAE. Short and stout. Third segment sub-oval $\frac{l}{w} = 2$, brownish. Arista more than twice as long as three antennal segments together, dark brown and haired, longest hairs less than half the width of third antennal segment.

THORAX. Oval, orange-brown, translucent, without markings. Three pairs of strong, post-sutural, dorso-central bristles, anterior pair immediately behind the suture. One pair of long, strong, acrostichal bristles. A well developed bristle slightly mesad of the supra-alar on thoracic dorsum.

SCUTELLUM. Concolorous with thorax, convex, white pollinose.

WINGS. Brownish-yellow (Figure 3b), $r_4 - m$ a little basad of junction of $R_1 + 2$ with C, and a little less than half way along cell $M_2 + M_3$. sc is almost straight, and terminates in M_4 at less than its own length from wing margin.

LEGS. Brownish-yellow with infuscated band at distal ends of tibiae. Fore femur without antero-ventral comb. One strong, curved, black bristle in infuscated area. Distal ends of hind femora infuscated.

HALTERES. Dark brown.

ABDOMEN. Typical in shape, brownish-yellow, a very dark brown incised dorsal band along posterior margin of each tergite.

GENITALIA. The type is carded and little can be seen, but parts visible are typical of the genus.

TYPE LOCALITY. Blackheath, New South Wales. 13th November, 1919 (G. H. Hardy).

TYPE. Female, and four paratypes (all females) mounted on card, in collection Queensland Museum.

I have named this species in honour of Mr. G. H. Hardy to whom Australian dipterists will always be greatly indebted.

The species has its closest affinities with the *aberrans* group, the members of which have a well defined bristle on the thoracic dorsum mesad of the supra-alar bristle. In Malloch's key (Malloch 1928), it will trace down to section 35 which contains *S. aberrans* and *S. maculithorax*. The unmarked thorax at once differentiates it from the other two which have the thorax markedly patterned.

SAPROMYZA VENUSTA sp. nov.

Figure 4.

LENGTH. Female, 6 mm. GENERAL COLOUR. Brownish.

HEAD. (Figure 4.)

FRONS. Produced in front of eyes, flat, $\frac{l}{w} = \frac{3}{2}$, bright orange-yellow with satiny sheen, finely pollinose. Fronto-orbital strips slightly darker and densely covered with microscopic hairs. A few scattered black setulae near anterior margin.

Two pairs of fronto-orbital bristles strong, of equal length, reclinate, and shorter than the inner verticals. Ocellar triangle fuscous; ocellar bristles very small, indistinguishable from other hairs in this area.

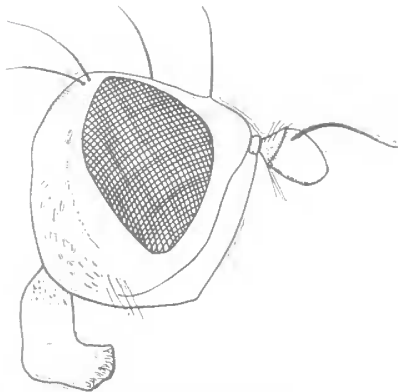


Figure 4.—*Sapromyza venusta* sp. nov. Head.

FACE. Very slightly convex, strongly carinate, antennal foveae well marked, golden-yellow, polished. Parafacials golden-yellow, densely white pollinose. Mouth normal, palpi blackish-brown and very strongly haired.

EYES. Quadrilateral in outline, $\frac{\text{vertical diameter}}{\text{horizontal diameter}} = \frac{3}{2}$.

ANTENNAE. Short, total length slightly more than length from anterior fronto-orbital bristles to anterior margin of frons; dark brown. Third segment oval, $\frac{l}{w} = \frac{3}{2}$. Arista twice length of whole antenna; dark brown, finely and densely pubescent.

THORAX. Normal, yellowish-brown, white pollinose. Three pairs of dorso-central bristles, anterior pair weaker than posterior and well behind suture. One pair of acrostichals, much finer than dorso-central bristles. All other dorsal bristles long and strong. Six to seven series of black, intra-dorso-central setulae.

SCUTELLUM. Convex, obtuse, yellowish; one pair of sub-lateral and one pair of apical scutellar bristles.

PLEURAL AREAS. Tawny. Two meso-pleural bristles, upper about twice the length of lower; two strong sterno-pleurals, anterior weaker than posterior.

WINGS. Yellowish-brown hyaline. $Cu_1 + 1A$ can be traced to very near the wing margin, and $2A$ is almost as long. $r_4 - m$ at same distance from wing base as junction of $R_1 + 2$ with C , and near middle of cell $M_2 + M_3$. se is straight.

HALTERES. Tawny.

LEGS. Honey-yellow with brown markings on fore tarsi, distal ends of fore tibiae, and terminal segments of mid and hind tarsi. Fore femur with many strong bristles, but no antero-ventral comb. Mid tibia with two strong and one weaker apical, and two strong pre-apical bristles.

ABDOMEN. Normal in shape, dark orange-brown, highly polished, a broad black band covering the anterior half of the tergite of the first abdominal segment.

GENITALIA. Typical of genus.

TYPE LOCALITY. Brisbane, Queensland. 10th August, 1915 (H. Hacker).

TYPE. Female, in collection Queensland Museum.

In Malloch's key (1928), this species will trace out to section 28, which contains *atrimana* and *nigricornis*. From both of these, *S. venusta* can be easily distinguished by the almost entirely yellow legs, and the brilliant colouring of the frons.

Genus **HOMONEURA** van der Wulp.

Five species of this genus are represented. *H. illingworthi* Malloch and *H. proximella* Malloch, which were described from Queensland, are apparently common. *H. preapicalis* Malloch and *H. fumifrons* Malloch were described from New South Wales and this is the first record of their occurrence in Queensland. One new species is present.

HOMONEURA NUBILA sp. nov.

Figure 5.

LENGTH. Male, 3.0—3.5 mm.; female, 5 mm. GENERAL COLOUR. Brownish-yellow.

HEAD. Round, tawny-yellow (Figure 5a).

FRONS. Slightly wider than long, yellowish with two brown vittae which converge towards the anterior. Fronto-orbital strips raised, white pollinose. Two pairs of fronto-orbital bristles; posterior pair long, strong, and a little anterior to the anterior ocellus; anterior pair not so strong, midway between anterior margin of frons and posterior pair. Both pairs reclinate.

FACE. Almost equilateral-triangular in outline, whitish to yellowish, pollinose, almost flat, not carinate. Mouth normal, palpi yellowish.

EYE. Higher than long.

ANTENNAE. Short, brownish-yellow. Third segment oval, $\frac{l}{w} = 2$. Arista dark brown and plumose, longest hairs longer than width of third antennal segment. Ocellar triangle fuscous; ocellar bristles about same length as inner verticals.

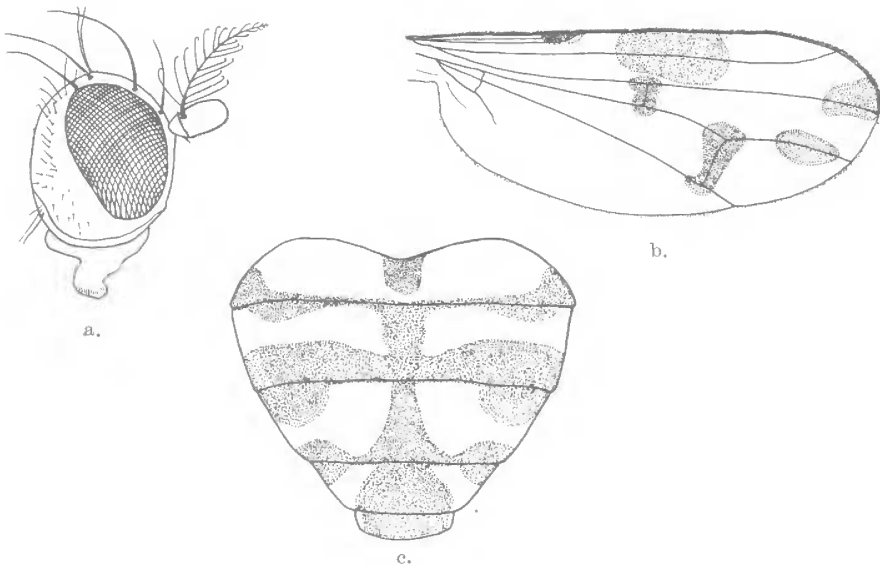


Figure 5.—*Homoneura nubila* sp. nov.

a. Head. b. Wing. c. Abdomen.

THORAX. Normal in shape, greyish pollinose with four well-marked, brownish vittae. The central pair are united at the anterior of the dorsum, and each curves outwards near middle pair of dorso-central bristles to join outer pair of vittae, each of which is interrupted at the suture. External to these, and not so evident, is a third pair of posterolateral vittae extending along outer margin of the dorso-central bristles.

The pleural areas are yellowish-brown with a darker brown mark just below each post-humeral bristle.

Three pairs of dorso-central bristles behind suture, anterior pair close to suture and somewhat weaker than the two posterior pairs. Five to seven series of black setulae between the dorso-central bristles. One pair of acrostichal bristles.

SCUTELLUM. Flat, yellowish, brown on disc, white pollinose. One pair of sub-lateral and one pair of apical scutellar bristles. One strong meso-pleural, two strong sterno-pleural bristles, anterior weaker than posterior.

WINGS. (Figure 5b.) The pattern is characteristic. Six well-defined dark brown areas are present: on apical part of cell Se and encroaching on cell R; an oval patch touching the Costa and extending posteriorly almost to R_4 (in the female, this area is at least twice the size of the corresponding area in the wing of the male); a dumb-bell-shaped area over r_4-m ; a larger, more irregular patch over se ; an area touching the costal margin and covering the termination of R_4 ; and an oval area, not touching the wing margin near the termination of R_5+M_1 .

HALTERES. Brownish-yellow.

LEGS. Yellowish. Hind tibia with one strong apical and two strong sub-apical spurs. Fore femur without an antero-ventral pre-apical comb.

ABDOMEN. Yellowish with prominent dark brown markings. Somewhat broader than normal.

GENITALIA. The type is carded but it can be said that the genitalia are as in *Homoneura*.

TYPE LOCALITY. Tooloom, New South Wales. January, 1926 (H. Hacker).

TYPE. Male, and two paratypes (one male and one female) in collection Queensland Museum.

In Malloch's key (Malloch 1927), this species will trace down to section 6 containing *Homoneura preapicalis* Malloch from which it may be distinguished by the absence of an antero-ventral comb on the fore-femur, the vittate thorax, and the characteristically marked dorsal surface of the abdomen.

Genus **CEPHALOCONUS** Walker.

CEPHALOCONUS TENEBROSUS Walker.

Figure 6.

Cephaloconus tenebrosus Walker, J. Linn. Soc. Lond., Zool., 5, 1861, p. 300.

I consider it desirable to provide the following description of *Cephaloconus tenebrosus* Walker three specimens of which are present in the collection of the Department of Agriculture and Stock, Brisbane.

LENGTH. Male, 5 mm.; female, 6 mm. GENERAL COLOUR. Brownish.

HEAD. Brownish (Figure 6a, b).

FRONS. Sub-rectangular and flat, $\frac{l}{w} = 2$, maximum width attained at level of anterior fronto-orbital bristles. Tawny in male, with two well marked brown vittae; brownish in the female, and dusted all over, the dusting palest along the fronto-orbital strips. A rectangular, black, satiny mark between each eye and antennal base. In both sexes, the frons bears irregularly scattered black setulae.

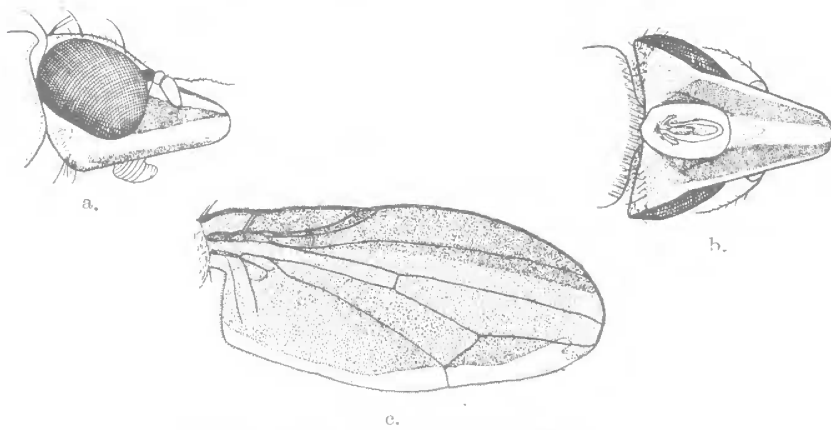


Figure 6.—*Cephaloconus tenebrosus* Walker.
Head, a. lateral, b. ventral. c. Wing.

Two pairs of fronto-orbital bristles are present, very close to the eyes. The anterior pair is about two-thirds, the posterior pair, one-third along the frons. Both pairs are strong, recurved, and behind each posterior bristle is a rather strong hair. The ocellar triangle is fuscous; ocellar bristles short, only reaching the bases of posterior fronto-orbital bristles.

FACE. Remarkably produced in the form of a cone, prolongation somewhat longer than greater diameter of the eye which is higher than long. Orange-yellow in colour with five brown vittae, all widest at base next the eye, and tapering to a point at tip of facial cone. One vitta on each side of the face, one dorsal, and one at each ventral angle of the cone along sides of the mouth which is situated towards the base of a triangular area on ventral surface. At the tip of facial cone, the end of dorsal vitta is connected with the ends of two lateral vittae. Palpi, orange-brown.

ANTENNAE. Orange in colour, short, the third segment oval, $\frac{l}{w} = 2$. Arista brownish-black, lightly haired, longest hairs a little longer than width of the arista at base.

THORAX. Parallel sided, not as wide as head, dark brown with two, wide, sub-medium, grey-dusted vittae, and two very thin lateral vittae, yellowish-white in colour.

Three pairs of long, strong, post-sutural, dorso-central bristles, one pair of long, thin, pre-scutellar acrostichal bristles; seven to eight series of black intra-dorso-central setulae; humeral and post-humeral bristles long and strong; meso-pleura haired with one, strong, posterior meso-pleural bristle; two sterno-pleural bristles, posterior a little more robust than anterior.

SCUTELLUM. Acute and convex, brownish, white pollinose. One pair of apical cruciate scutellars and one pair of marginal scutellars.

WINGS. Longer than the body, dark brown, except for a colourless band along anal margin (Figure 6c); brown colour deepest on costal margin, especially along veins, and tending to lighten towards anal margin. Stout costal spines pass along the wing margin until they reach R_4 where they are discontinued as in *Homoneura*.

HALTERES. Yellowish.

LEGS. All femora brown, tibiae and tarsi yellowish, fore-femur with an antero-ventral comb.

ABDOMEN. Oval, polished, yellowish-brown in colour, with scattered strong black hairs, four sub-median along posterior margin of each tergite strongest.

GENITALIA. The genitalia were not dissected out, but in one female, they appear to have much in common with those of *Sapromyza*.

The species was described from New Guinea by Walker, and this extended description is provided because of its general interest.

There are two specimens, collected by J. L. Froggatt at Byfield, Queensland, in the British Museum. Of three examples in the collection of the Department of Agriculture and Stock, Brisbane, one is from Byfield, collected by Froggatt at the same time as the British Museum material ; it was taken on the leaf of a banana plant. A second, also collected by Froggatt at Berner Creek, near South Johnstone, Queensland, has a note to the effect that it was taken on a banana plant and that the pupa was under the leaf. There is no information with the third specimen ; the initials " F.B." are on the label.

ACKNOWLEDGMENTS.

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